4.3 AIR QUALITY

Based on the findings of the IS, the proposed West Gateway project may or would result in potentially significant adverse impacts on air quality, specifically related to exceedance of standards, constituent concentration and compliance with adopted regional plans. The analysis in the following sections focuses on the existing conditions in the study area, the analysis methodology, thresholds of significance, the potential impacts of the West Gateway project related to air quality, and mitigation as needed.

4.3.1 INTRODUCTION

Over the past several decades, both California and the federal government have set and periodically revised ambient air quality standards for pollutants that are of the greatest health concerns. These standards encompass the most common varieties of airborne materials which can pose a health hazard. Pollutants with ambient standards remain the chief focus of air quality management activities around the nation. Air quality standards are set at levels which provide a reasonable margin of safety and protect the health of the most sensitive individuals in the population. Pollutants for which ambient standards have been set are referred to as "criteria pollutants." Criteria pollutants include: (1) ozone (O_3); (2) carbon monoxide (CO); (3) nitrogen dioxide (NO_2); (4) sulfur dioxide (SO_2); (5) Particulate Matter (PM_{10}, comprised of airborne particles less than or equal to 10 microns in diameter); (6) Fine Particulate Matter ($PM_{2.5}$, comprised of airborne particles less than or equal to 2.5 microns in diameter) and (7) lead.

The South Coast Air Basin (Basin) is a 6,600 square-mile area encompassing all of Orange County and the non-desert parts of Los Angeles, Riverside and San Bernardino Counties. The Basin fails to meet national standards for O_3, CO and PM_{10} and therefore is considered a federal "non-attainment" area for those pollutants. In addition, the Basin exceeds the more stringent California standards for O_3, CO and PM_{10}. California has also established a standard for sulfates and visibility. The Basin does not meet the California standard for either, and is not expected to fully meet the visibility standard until 2010. The analysis contained herein addresses each of the state and federal criteria pollutants.

4.3.2 REGULATORY SETTING AND AUTHORITY

In response to longstanding concerns about air pollution, federal, state and local authorities have adopted various rules and regulations requiring evaluation of the impact on air quality of a planned project and appropriate mitigation for air pollutant emissions. The following sections focus on current air quality planning efforts and the responsibilities of agencies involved in these efforts. A discussion of ambient air quality standards is also provided.

A number of plans and policies have been adopted which address air quality concerns. Plans and policies relevant to the proposed West Gateway project are discussed below.

4.3.2.1 Federal Clean Air Act

The Federal Clean Air Act (CAA) was first enacted in 1955 and has been amended numerous times, most recently in 1990. The CAA establishes federal air quality standards, known as National Ambient Air Quality Standards (NAAQS), and specifies future dates for achieving compliance with these standards. The NAAQS were amended in July 1997 to include an additional standard for O_3 and to adopt a NAAQS for $PM_{2.5}$. The CAA also mandates that the state submit and implement a State Implementation Plan (SIP) for local areas not meeting the NAAQS. SIPs must include pollution control measures that demonstrate how the NAAQS will be met. The City of Long Beach is located in the Basin, which was designated a non-attainment area for certain pollutants regulated under the CAA. By a separate state statute, the South Coast Air Quality Management District (SCAQMD) was established as the local air pollution control agency for the Basin.

The 1990 Amendments to the CAA identify specific emission reduction goals for areas not meeting the NAAQS. These Amendments require both a demonstration of reasonable further progress toward attainment and incorporation of additional sanctions for failure to attain or to meet interim milestones. The sections of the CAA which would most substantially affect the implementation of the proposed project are Titles I (Nonattainment Provisions) and II (Mobile Source Provisions).

4.3.2.2 California Clean Air Act

The California Clean Air Act (CCAA), signed into law in 1988, requires all areas of the state to achieve and maintain the California ambient air quality standards (California AAQS) by the earliest practical date.

Standards for most of the criteria and other pollutants have been set by the State. The California AAQS tend to be more restrictive than the NAAQS and are based on even greater health and welfare concerns. California has also set AAQS for sulfates, hydrogen sulfide, vinyl chloride and visibility-reducing particles. Table 4.3-1 shows the California AAQS currently in effect for criteria pollutants.

Air pollution from commercial and industrial facilities is regulated by local air quality management districts. All air pollution control districts have been formally designated as attainment or non-attainment for each state AAQS. Table 4.3-2 lists the criteria pollutants and their relative attainment status. Serious or worse non-attainment areas are required to prepare air quality management plans to include specified emission reduction strategies in an effort to meet clean air goals.

The Basin fails to meet national standards for O_3 and PM_{10} and therefore is considered a federal "non-attainment" area for these pollutants. Nonattainment designations are categorized into four levels of severity: (1) moderate, (2) serious, (3) severe and (4) extreme. Table 4.3-2 lists the criteria pollutants and their relative attainment status. No official determination has been made regarding the attainment status of the new ozone and $PM_{2.5}$ standards. However, at present, no methodologies for determining impacts related to $PM_{2.5}$ have been developed nor have any strategies or mitigation programs for this pollutant been developed or adopted by federal, state or regional agencies. The Basin's criteria pollutant designations are based on the following criteria:

TABLE 4.3-1
AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards [a]	National Standards [a]	Pollutant Health Effects	Major Pollutant Sources
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m^3)	0.12 ppm (235 µg/m^3)	High concentrations can directly affect lungs, causing irritation. Common effects are damage to vegetation and cracking of untreated rubber.	Motor vehicles.
	8 Hour		0.08 (157 µg/m^3)		
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	Interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen.	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 Hour	9 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)		
Nitrogen Dioxide (NO_2)	Annual Average		0.05 ppm (100 ug/m^3)	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown.	Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, railroads.
	1 Hour	0.25 ppm (470 ug/m^3)			
Sulfur Dioxide (SO_2)	Annual Average		80 ug/m^3 (0.03 ppm)	Irritates upper respiratory tract; injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron and steel. Limits visibility and reduces sunlight.	Fuel combustion, chemical plants, sulfur recovery plants and metal processing.
	24 Hour	0.05 ppm (131 ug/m^3)	365 ug/m^3 (0.14 ppm)		
	1 Hour	0.25 ppm (655 ug/m^3)			
Particulate Matter (PM_{10})	Annual Geomertric Mean	30 ug/m^3		May irritate eyes and respiratory tract. Absorbs sunlight, reducing amount of solar energy reaching the earth. Produces haze and limits visibility.	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities such as wind-raised dust and ocean spray.
	24 Hour	50 ug/m^3	150 ug/m^3		
	Annual Arithmetic Mean		50 ug/m^3		
Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Average		15 ug/m^3	May increase respiratory symptoms and diseases and decrease lung function.	Vehicle exhaust, industrial combustion.
	24 Hour		65 ug/m^3		

[a] *ppm = parts per million, µg/m^3 = micrograms per cubic meter, mg/m^3 = milligrams per cubic meter.*

Source: California Air Resources Board (1996) and the United States Environmental Protection Agency (1997).

- Unclassified: a pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.

- Attainment: a pollutant is designated attainment if the state standard for that pollutant was not violated at any site in the area during a three year period.

- Nonattainment: a pollutant is designated nonattainment if there was at least one violation of a State standard for that pollutant in the area.

- Nonattainment/Transitional: is a subcategory of the nonattainment designation. An area is designated nonattainment/transitional to signify that the area is close to attaining the standard for that pollutant.

TABLE 4.3-2
SOUTH COAST AIR BASIN ATTAINMENT STATUS

Pollutant	National Standards	California Standards
Ozone (O_3)	Extreme	Extreme
Carbon Monoxide (CO)	Attainment	Serious
Sulfur Dioxide (SO_2)	Attainment	Attainment
Nitrogen Dioxide (NO_2)	Maintenance	Maintenance
PM_{10}	Serious	Serious
$PM_{2.5}$	Pending	N/A

Source: California Air Resources Board, http://www.arb.ca.gov/desig/adm/adm.htm (2003).

4.3.2.3 South Coast Air Quality Management District (SCAQMD)

The SCAQMD has jurisdiction over approximately 12,000 square miles consisting of the four-county South Coast Air Basin and the Los Angeles County and Riverside County parts of what used to be, under state classification, the Southeast Desert Air Basin. Historically, the Basin has the highest number of exceedances of the federal AAQS in the United States. In 2002 alone, there were 60 days on which one or more federal AAQS were exceeded somewhere in the Basin. However, air quality trends through 2002 reveal continuation of a downward trend in concentrations and the number of exceedances in relation to preceding years. In the past few years, O_3 levels in the Basin have been markedly improving in terms of maximum concentration, the number of days exceeding standards and the severity of episode levels. In a continuing trend of improving air quality, the Basin made it through a summer without experiencing a stage one episode for the fourth year in a row. While 1999 and 2000 were the first years in the history of ambient air monitoring that the Basin was not the location of the highest recorded O_3 concentration in the nation, once again in 2001 the highest one-hour O_3 concentration in the nation was reported in the Basin.

The SCAQMD has adopted a series of Air Quality Management Plans (AQMPs) to meet the California and national AAQS. According to the 2003 AQMP, attainment of the federal PM_{10} standard is to occur no later than December 31, 2006 and O_3 standards are to be achieved by 2010. The eight-hour federal CO standard was to be attained no later than December 31, 2000; however, two exceedances were measured in the Basin during 2000. As of 2002, the Basin had met the CO standards and the SCAQMD will request reclassification as attainment in the next few years. The 2003 AQMP updates the demonstration of attainment with the federal AAQS for O_3 and PM_{10}, replaces the 1997 attainment demonstration for the federal CO standard and provides a basis for a maintenance plan for CO for the future and updates the maintenance plan for the federal NO_2 standard that the Basin has met since 1992.

The 2003 revision to the AQMP proposes policies and measures to achieve federal and state AAQS for healthful air quality in the Basin. The revision to the AQMP also addresses several state and federal planning requirements and incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes and new air quality modeling tools. This AQMP is consistent with and builds on the approaches taken in the 1997 AQMP and the 1999 Amendments to the Ozone SIP for the South Coast Air Basin. However, this revision points to an urgent need for additional emissions reductions (beyond those incorporated in the 1997/99 AQMP) to offset increased emissions estimates from mobile sources and to meet all federal criteria pollutant standards within the time frames allowed under the federal CAA.

In addition to the AQMP and its rules and regulations, SCAQMD has published a handbook (California Environmental Quality Act (CEQA) Air Quality Handbook, November, 1993) intended to provide local governments and CEQA practitioners with guidance for analyzing and mitigating project specific air quality impacts. The Handbook provides standards, methodologies and procedures for conducting air quality analyses for projects subject to CEQA requirements.

4.3.3 REGIONAL AIR QUALITY

The project site is located within the South Coast Air Basin of California, a 6,600 square-mile area encompassing all of Orange County and the non-desert parts of Los Angeles, Riverside and San Bernardino Counties. The distinctive climate of this area is determined primarily by its terrain and geographical location. Regional meteorology is largely dominated by a persistent high pressure area which commonly resides over the eastern Pacific Ocean. Seasonal variations in the strength and position of this pressure cell cause changes in the weather patterns of the area. Local climatic conditions are characterized by warm summers, mild winters, infrequent rainfall, moderate daytime on-shore breezes and moderate humidity. This normally mild climatic condition is occasionally interrupted by periods of hot weather, winter storms and Santa Ana (hot easterly flow) winds.

The South Coast Air Basin is an area of high air pollution potential, particularly from June through September. This condition is generally attributed to light winds and shallow vertical atmosphere mixing. This frequently reduces pollutant dispersion, thus causing elevated air pollution levels. Pollutant concentrations in the Basin vary with location, season and time of day. Ozone concentrations, for example, tend to be lower along the coast, higher in the near inland valleys and lower in the far inland areas of the Basin and adjacent desert.

Over the past 30 years, substantial progress has been made in reducing air pollution levels in southern California. The area previously was in non-attainment for all NAAQS, except SO_2. The area is now defined as in attainment for NO_2, lead, and SO_2, with CO approaching attainment. PM_{10} and ozone levels, while reduced substantially from their peak levels, are still far from attainment.

4.3.4 LOCAL AREA CONDITIONS

4.3.4.1 Existing Pollutant Levels At Nearby Monitoring Stations

The SCAQMD maintains a network of air quality monitoring stations located throughout the South Coast Air Basin. As defined by the SCAQMD, the monitoring station most representative of existing air quality conditions in the City of Long Beach is the North Long Beach Monitoring Station. Criteria pollutants are monitored at this station with the most recent data available from these monitoring stations encompassing the years from 2000 to 2004. This data, shown in Table 4.3-3 shows the following pollutant trends:

Ozone - The maximum ozone concentration recorded during the 2000 to 2004 period was 0.118 parts per million (ppm), which was recorded in 2000. During this period, the California standard of 0.09 ppm was exceeded between 0 and 3 times annually, with the lowest number of exceedances recorded in 2000 and 2001. The national standard of 0.12 ppm was exceeded only once during the five-year period, with the maximum number of exceedances occurring in 2000.

Carbon Monoxide - The maximum recorded 8-hour concentration during the 2000 to 2004 period was 5.73 ppm, which was recorded in 2000. During this time period, there were no exceedances of the California or national 8-hour carbon monoxide standards.

Nitrogen Dioxide - The highest recorded concentration of nitrogen dioxide during the period 2000 to 2004 was 0.14 ppm, which was recorded in 2000. The California standard was not exceeded during the period. No violations of the national standard occurred during this time period.

Sulfur Dioxide - The highest recorded concentration of sulfur dioxide during the period 2000 to 2004 was 0.009 ppm, which was recorded in 2001 and 2004. No violations of the California or national standards were recorded during this time period.

Particulate Matter (PM_{10}) - The highest recorded concentration during the period 2000 to 2004 was 105 micrograms per cubic meter of air ($\mu g/m^3$) of particulates, which was recorded in 2000. During this same time period, the California PM_{10} standard was exceeded between 2 and 12 days annually, with the highest number of exceedances in 2000 and the lowest number of exceedances recorded in 2004.

Fine Particulates ($PM_{2.5}$) – The highest recorded concentration during the period 2000 to 2004 was 115 $\mu g/m^3$ of particulates, which was recorded in 2003. During this same time period, the California $PM_{2.5}$ standard was exceeded between 0 and 4 days annually, with the highest number of exceedances in 2000.

TABLE 4.3-3
POLLUTANT STANDARDS AND NORTH LONG BEACH MONITORING STATION AMBIENT AIR QUALITY DATA

	2000	2001	2002	2003	2004
Ozone (O_3)[1]					
California Standard (1-hr avg. > 0.09 ppm)					
National Standard (1-hr avg. > 0.12 ppm)					
National Standard (8-hr avg. > 0.08 ppm)					
Maximum Concentration 1-hr period (ppm)	0.118	0.091	0.084	0.099	0.082
Maximum Concentration 8-hr period (ppm)	0.081	0.070	0.064	0.068	0.067
Days California standard exceeded	3	3	0	1	0
Days National standard exceeded	1	0	0	0	0
Days National 8-hr standard exceeded	0	0	0	0	0
Carbon Monoxide (CO) [1]					
California Standard (1-hr avg. > 20 ppm)					
California Standard (8-hr avg. > 9 ppm)					
National Standard (1-hr avg. > 35 ppm)					
National Standard (8-hr avg. > 9 ppm)					
Maximum concentration 8-hr period (ppm)	5.73	4.74	4.56	4.66	3.36
Days California 8-hr standard exceeded	0	0	0	0	0
Days National 8-hr standard exceeded	0	0	0	0	0
Nitrogen Dioxide (NO_2) [1]					
California Standard (1-hr avg. > 0.25 ppm)					
Maximum 1-hr concentration (ppm)	0.140	0.122	0.130	0.135	0.118
Annual Arithmetic Mean (AAM) (ppm)	0.032	0.030	0.029	0.029	N/A
Days California standard exceeded	0	0	0	0	0
Particulate Matter (PM_{10}) [1]					
California standard (24-hr avg. or AAM > 50 $\mu g/m^3$)					
California standard (AGM > 30 $\mu g/m^3$)					
National standard (24-hr avg. > 150 $\mu g/m^3$)					
Maximum 24-hr concentration ($\mu g/m^3$)	105	91	74	69	72
Days exceeding California standard	12	10	5	4	2
Days exceeding National standard	0	0	0	0	0
Particulate Matter ($PM_{2.5}$) [1]					
National standard (24-hr avg. > 65 $\mu g/m^3$)					
Maximum 24-hr concentration ($\mu g/m^3$)	81.5	72.9	62.7	115.2	61
Days exceeding National standard	4	1	0	3	0

AAM = Annual Arithmetic Mean AGM=Annual Geometric Mean ppm = parts per million
$\mu g/m^3$ = micrograms per cubic meter N/A = not available

Notes: Ambient data for airborne lead is not included in this table because the Basin is currently in compliance with state and national AAQSs for lead and sulfur oxides.

[1] Monitoring data was provided by the North Long Beach station located at 3648 N. Long Beach Boulevard. The Wilmington – MATES station is located in closer proximity of the project site. However, the Wilmington station only monitors for years 2001 and 2002.

Source: South Coast Air Quality Management District and CARB Air Quality Data 2000-2004.

Lead - The South Coast Air Basin is currently in compliance with California and national standards for lead.4.3.4.2 Sensitive Receptors.

4.3.4.2 Sensitive Receptors

Some population groups, such as children, the elderly, and acutely ill and chronically ill persons, especially those with cardio-respiratory diseases, are considered more sensitive to air pollution than others. Sensitive land uses in close proximity to the project site include the Cesar Chavez Elementary School to the west of the site and a senior housing complex at 3rd Street and Chestnut Avenue northeast of the site.

4.3.4.3 Coke Dust

Emissions of coal and coke dust have been a primary concern to local citizens. In the past, there have been many sources of these emissions in the heavily industrialized harbor area. These include the refinery kilns and both open and enclosed storage facilities in Wilmington, San Pedro, Terminal Island, and the Port of Long Beach.

Petroleum coke is a by-product of oil refining that is used by many countries as an industrial fuel source. Coke is exported from Southern California through bulk-loading terminals in the ports of Long Beach and Los Angeles. The coke is transported from the refineries to the terminals by truck and is handled at the terminals by a system of conveyors, storage sheds, and ship loaders. Coke dust is an air pollutant regulated in Southern California by the SCAQMD under Rule 1158 (http://www.aqmd.gov/rules/reg/reg11/r1158.pdf). In response to SCAQMD's Rule 1158, the Port and its tenants are currently designing and constructing infrastructure improvements. These improvements include enclosure or abandonment of all open petroleum coke piles, shiploader modifications, paving dirt areas, truck wash improvements, and the enclosure or additions of water spray systems to the conveyor belts. The Port has also implemented more rigorous housekeeping practices, such as vacuum sweeping the terminal facilities and adjacent roadways.

In conjunction with the 1158 compliance program, the Port has undertaken a three-year monitoring program designed to assess the effectiveness of the improvements. This program measures particulate fallout throughout the southern portion of the City of Long Beach and measures the amount of coke that falls on roads in the Port. Therefore, coke dust is already controlled and monitored under existing federal and state regulations and does result in any special design of developments in the fallout area.

Source: Port of Long Beach Website: http://www.polb.com/html/4_environment/rule1158.html

4.3.5 THRESHOLDS OF SIGNIFICANCE RELATED TO AIR QUALITY

Air quality planning within the South Coast Air Basin is based on attainment of the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS). To this end, the SCAQMD has established thresholds of significance for the assessment of air quality impacts attributable to private development projects. The thresholds seek to promote CAAQS and NAAQS attainment.
The SCAQMD has also established daily and quarterly emission thresholds for project construction as

well as daily emission thresholds for project operations. The SCAQMD thresholds are set at a level which either promote or maintain regional attainment of the relevant AAQS. A project is deemed to have a significant impact on regional air quality if emissions (specified in either pounds of pollutant emitted per day or per quarter) of specified pollutants related to either project construction or operation exceed the significance threshold. These regional significance thresholds are summarized in Table 4.3-4.

CAAQS have also been established for sulfates, hydrogen sulfide, vinyl chloride and lead. Based on the types of the fuels consumed during project construction and operations, emissions of sulfates, hydrogen sulfide, vinyl chloride and lead are expected to be negligible. These pollutants are therefore not analyzed in this Study.

TABLE 4.3-4
SCAQMD SIGNIFICANCE THRESHOLDS

	Construction Pounds per Day	Construction Tons per Annual Quarter	Post-Construction Operations Pounds Per Day
Carbon Monoxide	550	24.75	550
Nitrogen Oxides	100	2.50	55
Reactive Organic Compounds	75	2.50	55
Particulate Matter	150	6.75	150
Sulfur Oxides	150	6.75	150

Source: South Coast Air Quality Management District, CEQA Air Quality Handbook, November 1998.

4.3.6 IMPACTS RELATED TO AIR QUALITY

Analysis of the potential air quality impacts of the proposed project was conducted for both construction and post-construction operation phases. For each of these phases, the analysis included analysis of regional emissions. For the operational phase, the analysis also addresses local area concentrations of a specific pollutant, carbon monoxide (CO). Assumptions used in preparing the analyses were consistent with those recommended in SCAQMD's CEQA Air Quality Handbook (1993). Model data and results are in Appendix E.

4.3.6.1 Construction Phase

Construction of the proposed project would generate pollutant emissions from the following activities: (1) Demolition operations; (2) travel by construction workers to the sites; (3) delivery and hauling of construction materials and supplies to and from the project sites; (4) fuel combustion by on-site construction equipment; (5) the application of architectural coatings and asphalt that release reactive organic gases (ROG); and (6) dust (PM_{10}) generation from construction vehicle travel.

Construction emissions are calculated based on the type and magnitude of development which would be accommodated under the proposed project, the time line for project construction, the mix of construction equipment required to build the project, and emission factors from the SCAQMD's URBEMIS 2002 emissions inventory model. Emissions from construction activities are calculated and would be compared to the SCAQMD's construction related emissions thresholds.
Construction-related regional emissions on a daily basis for the proposed project are presented in Table

4.3-5. Demolition activities would occur and be completed for Phase 1 in year 2005 and would therefore not result in emissions for years 2006 and 2007. Site preparation and excavation is expected to occur in 2005 and 2006. Aspects of building construction would occur throughout the three years that are analyzed. Construction related daily emissions would be below SCAQMD significance thresholds for CO, PM_{10} and SO_X. However, criteria pollutants ROG and NO_X would exceed SCAQMD's established thresholds for daily emissions. Thus, emissions of these pollutants are considered to produce adverse and significant short-term regional air quality impact since levels of these emissions would be above the SCAQMD air pollutant significance thresholds.

TABLE 4.3-5
MAXIMUM PROJECT RELATED DAILY CONSTRUCTION EMISSIONS

	CO	ROG	NO_x	PM_{10}	SO_x
Daily Emissions[1] (lbs/day)					
Year 2005					
Demolition Phase	159.09	20.8	159.36	8.96	<1
Grading/Trenching Phase	157.98	20.73	153.65	31.99	<1
Building Construction Phase	159.09	20.8	159.26	32.09	<1
Year 2006					
Demolition Phase	0	0	0	0	0
Grading/Trenching Phase	0	0	0	0	0
Building Construction Phase	124.19	14.57	87.76	4.16	0
Year 2007					
Demolition Phase	0	0	0	0	0
Grading/Trenching Phase	0	0	0	0	0
Building Construction Phase	199.46	919.77	121.02	5.50	0
SCAQMD Daily Threshold	550	75	100	150	150
Exceeds Thresholds?	NO	YES	YES	NO	NO

Source: P&D Environmental December 2004 using URBEMIS2002. Model data is in Appendix E.

4.3.6.2 Operations Phase

Regional Operational Air Quality Impacts

Air pollutant emissions associated with the development of the proposed project would be generated by both consumption of natural gas by the new residential and retail uses as well as the operation of roadway vehicles. Emissions modeled for the operational phase of the project were compiled using the URBEMIS2002 emission factor model. This computer model projects emission rates for motor vehicles based on a desired year of analysis, a projected vehicle fleet mix, projected vehicle speeds, and whether these emissions are projected to occur during the summer or the winter months and other factors. Traffic data used in the air quality analysis was compiled in year 2004 by Meyer, Mohaddes Associates for the modeling year of 2007. These emissions were calculated using SCAQMD recommended temperatures specified for each pollutant. Assumptions used in preparing the model analysis were consistent with those recommended in SCAQMD's CEQA Air Quality Handbook (1993). Year 2005 project-related operational emissions for stationary and on-road mobile emission

sources are summarized below in Table 4.3-6.

As illustrated in Table 4.3-6, regional emissions from the operation of the proposed project would result in emissions which exceed the SCAQMD thresholds for operational phase emissions for ROG. As such, the development of the proposed project would result in a significant adverse impact to air quality.

TABLE 4.3-6
OPERATIONAL PHASE REGIONAL EMISSIONS
(lbs./day)

	CO	ROG	NOx	PM10	SOx
Stationary Sources	**4.07**	**45.55**	**7.07**	**<1**	**<1**
Natural Gas	3.00	0.54	7.06	<1	<1
Landscaping	1.07	0.15	0.01	<1	<1
Consumer Products	--	44.86	--	<1	<1
Mobile Sources	**513.39**	**51.23**	**46.96**	**45.72**	**<1**
Total	**517.45**	**96.79**	**54.03**	**45.74**	**<1**
SCAQMD Daily Thresholds	550	55	55	150	150
Exceeds Thresholds?	NO	YES	NO	NO	NO

Source: P&D Environmental December 2004 using URBEMIS2002. Model data is in Appendix E.

Local Operational Air Quality Impacts

During the operational phase of the project, project traffic would result in localized concentrations of pollutants. However, the proposed project would not result in a substantial quantity of vehicle trips. Based on the traffic study for this project, the proposed project would result in a total of 371 trips in the AM peak hour and 510 trips in the PM peak hour during the first project phase and the second project phase is expected to generate an additional 100 AM peak hour trips and 127 PM peak hour trips. This minimal increase in vehicle traffic due to the project is not of sufficient volume to result in concentrations of CO that are above the state or federal ambient air quality standards nor a significant increase in CO concentrations. In addition, the traffic report shows that intersections which operate at level of service (LOS, refer to Section 4.11.2.2 for an explanation of LOS) D or worse, operate and those levels with or without the proposed West Gateway Project. Therefore, if there are CO concentrations at these intersections known as CO "hotspots" they would not occur as a result of the project. Additionally, based on Caltrans Transportation Project-Level Carbon Monoxide Protocol, Dec 1997, intersections with a Level of Service (LOS) E or F would require a CO hot spot analysis. Intersections operating at LOS D, would need to be evaluated as whether meteorologic conditions at the intersection may be favorable to higher CO concentrations as provided by this Protocol. The project is not responsible for any single intersection operating at LOS below LOS D. Therefore, CO hot spot analysis was not performed for the project. Furthermore, as demonstrated by the monitoring data at the North Long Beach monitoring station, monitored real-world CO concentrations are below both the 1 and 8-hour state and federal ambient air quality standards with no violations of either the state or national standard. Therefore, the proposed project is not anticipated to result in a significant air quality impact from localized CO concentrations.

Consistency With Adopted Plans And Policies

With respect to determining project consistency with SCAQMD and SCAG air quality policies, it must be recognized that air quality planning in the South Coast Air Basin focuses on the attainment of the AAQS at the earliest feasible date. The SCAQMD CEQA emissions thresholds for construction and operational phase emissions are designed to identify those projects that would result in significant levels of pollutants as well as promote the attainment of the CAAQS and NAAQS.

The West Gateway project anticipates development of the project site with land uses and densities consistent with the land use designations and densities assumed for this site in the City of Long Beach General Plan Land Use Element. Specifically, the project site and surrounding developments were designated as for mixed use development in the General Plan which allows for commercial and residential uses. General Plans are used to assist in development of the AQMP which provides the framework for attainment of the AAQS and NAAQS. Because the proposed project is consistent with the City of Long Beach General Plan Land Use Element, it is assumed to be consistent with the AQMP and the development's assumptions included in the modeling for the AQMP.

4.3.7 MITIGATION MEASURES RELATED TO AIR QUALITY

The proposed project would result in significant air quality impacts from the construction and operational phases of the project. As recommended by SCAQMD in their NOP comment letter, compliance with the following existing regulations and project enhancement measures will lessen air quality impacts.

4.3.7.1 Construction Phase

Existing Regulations

During construction, the contractor will be required to comply with SCAQMD Rule 403 – Fugitive Dust. Rule 403 requires that dust generated during demolition and construction activities be suppressed. Under Rule 403, the project construction activities would be subject to the following requirements:

AQ-1 All trucks hauling dirt, sand, soil or other loose materials off site shall be covered or wetted or shall maintain at least two feet of freeboard (i.e., minimum vertical distance between the top of the load and the top of the trailer).

AQ-2 Streets shall be swept hourly if visible soil material has been carried onto adjacent public paved roads (reclaimed water shall be used if available.)

AQ-3 All active sites shall be watered at least twice daily.

AQ-4 All grading activities that result in dust generation shall cease during second stage smog alerts and periods of high winds (i.e., greater than 25 mph) if dust is being transported to off-site locations and cannot be controlled by watering.

AQ-5 The developer shall use zero Volatile Organic Compounds (VOC) content architectural coatings during the construction of the project to the maximum extent feasible. This

measure will reduce VOC (ROG) emissions by 95 percent over conventional architectural coatings. The following websites provide lists of manufacturers of zero VOC content coatings:

http://www.aqmd.gov/business/brochures/zerovoc.html

http://www.delta-institute.org/publications/paints.pdf

http://www.cleanaircounts.org/factsheets/FS%20PDF/Low%20VOC%20Paint.pdf

AQ-6 No person shall conduct an active operation with a disturbed surface area of five or more acres, or with a daily import or export of 100 cubic yards or more of bulk material without utilizing at least one of the measures listed below at each vehicle egress from the site to a paved public road.

(A) Install a pad consisting of washed gravel (minimum-size: one inch) maintained in a clean condition to a depth of at least six inches and extending at least 30 feet wide and at least 50 feet long.

(B) Pave the surface extending at least 100 feet and at least 20 feet wide.

(C) Utilize a wheel shaker/wheel spreading device consisting of raised dividers (rails, pipe, or grates) at least 24 feet long and 10 feet wide to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.

(D) Install and utilize a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.

(E) Any other control measures approved by the U.S. EPA as equivalent to the actions specified in (A) through (D) listed above.

Project Enhancement Measure

AQ-7 The project applicant will be required to name a construction relations officer to act as a community liaison concerning on site construction activity, including resolution of issues related to dust generation from grading/paving activities.

The existing regulations and project enhancement measure identified above implement measures associated with grading/paving activities and construction equipment travel on unpaved roads which are consistent the SCAQMD's intent to control fugitive dust emissions associated with construction.

4.3.7.2 Operations Phase

Existing Regulations

AQ-8 The project shall comply with the findings and intent of Chapter 8.65 (Mobile Source Air Pollutant Reduction) of the City of Long Beach Municipal Code.

4.3.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION RELATED TO AIR QUALITY

As discussed previously, the proposed West Gateway Project exceeds air quality emissions thresholds during both the construction or operation phases. Even with the application of the regulations, project enhancement measure and the proposed mitigation measures, the project will have a significant and unavoidable impact.

The proposed West Gateway project would result in air pollutant emissions in exceedance of construction and operational thresholds established by the SCAQMD. During the construction phase of the project, compliance with existing regulations would reduce ROG emissions from the application of architectural coatings during construction to levels below the SCAQMD daily construction emission thresholds. Therefore, construction of the proposed project would not result in short term adverse ROG emissions. However, NO_x emissions from construction vehicle exhaust would continue to exceed the SCAQMD emissions threshold and would represent an unavoidable significant adverse construction impact of the proposed project related to air quality.

Project operations would result in emissions of ROG which would exceed the operational phase thresholds established by the SCAQMD and which cannot be mitigated to below a level of significance and which would constitute an unavoidable significant adverse impact of the proposed project related to air quality.